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FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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In the Matter of)
)
Implementation of Sections 3(n) and 332 of)
the Communications Act)
)
Regulatory Treatment of Mobile Services)

GN Docket No. 93-252 ✓

FURTHER NOTICE OF PROPOSED RULE MAKING

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By the Commission:

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I. INTRODUCTION

1. On February 3, 1994, we adopted a *Second Report and Order*¹ in this proceeding that implemented the basic provisions of Sections 3(n) and 332 of the Communications Act (the Act), as amended by Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993.² The new regulatory structure established by the *Second Report and Order* was designed to ensure symmetrical regulatory treatment of competing mobile service providers, to promote further competition and economic growth in the mobile services marketplace, and to establish an appropriate level of regulation to protect mobile service consumers.

2. Today's Further Notice proposes further modifications to our existing mobile services rules that are necessary to complete the transition to the new regulatory regime envisioned by Congress and establish regulatory symmetry in the regulation of mobile services. Specifically, we address the impact of the amended statute on technical, operational, and licensing rules for the mobile services, and particularly on the rules affecting those former private land mobile services that have been reclassified as "commercial mobile" radio services (CMRS) by the *Second Report and Order*. As required by the Budget Act, we propose to amend these rules to ensure that competitors in the mobile services marketplace are subject to comparable regulatory requirements and that inconsistencies in our regulation of substantially similar services are eliminated. We seek comment on these proposed changes, and will act on our proposals by the August 10, 1994 deadline established by Congress for adoption of rules implementing the statute.³

¹ *Second Report and Order*, Implementation of Sections 3(n) and 332 of the Communications Act, Regulatory Treatment of Mobile Services, GN Docket No. 93-252, 9 FCC Rcd 1411 (1994), *erratum*, Mimeo No. 92486 (released March 30, 1994) (*Second Report and Order*).

² Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI, § 6002(b), 107 Stat. 312, 392 (1993) (Budget Act).

³ See Budget Act, § 6002(d)(3).

II. BACKGROUND

3. In the *Second Report and Order*, we applied the statutory definitions of "commercial mobile" radio service (CMRS) and "private mobile" radio service (PMRS) to determine the regulatory status of all existing mobile services and of Personal Communications Services (PCS). We determined that all existing common carrier mobile services meet the statutory definition of CMRS set forth in Section 332(d) of the Act, *i.e.*, they are engaged in offering for-profit, interconnected service to the public or a substantial portion of the public.⁴ We further determined that many existing private land mobile services regulated under Part 90 of our rules, such as government, public safety, and certain specialized industrial services, fall outside one or more elements of the CMRS definition and therefore should be classified as PMRS.⁵ With respect to Specialized Mobile Radio (SMR), Business Radio, 220-222 MHz private land mobile service, and private paging, however, we determined that our private land mobile service rules allow (although they do not require) licensees in these four service categories to offer for-profit, interconnected service to the public or a substantial portion of the public, thus meeting the CMRS definition. We therefore concluded that licensees in these Part 90 service categories who are in fact providing such service would be reclassified as CMRS, while Part 90 licensees whose operations do not meet the CMRS definition would continue to be classified as private.⁶

4. Having identified those classes of private land mobile service licensees that would be reclassified as CMRS, we noted that the Budget Act sets forth a specific timetable for transition to the new regulatory structure.⁷ First, the statute establishes a one-year period from the date of enactment, *i.e.*, until August 10, 1994, for us to make such changes to our existing service rules as are necessary to implement the amendments to Section 332 and to provide for an orderly transition. Specifically, the Budget Act states that the Commission:

(A) shall issue such modifications or terminations of the regulations applicable . . . to private land mobile services as are necessary to implement the amendments made by [Budget Act] subsection (b)(2) [*i.e.*, revised Sections 3(n) and 332 of the Act]

(B) in the regulations that will . . . apply to a service that was a private land mobile service and that becomes a commercial mobile service . . . , shall make such other modifications as may be necessary and practical to assure that licensees in such service are subjected to technical requirements that are comparable to the technical requirements that apply to licensees that are providers of substantially similar common carrier services;

⁴ 47 U.S.C. § 332(d); *see Second Report and Order*, ¶¶ 100-109.

⁵ *Second Report and Order*, ¶¶ 82-86.

⁶ *Id.*, ¶¶ 87-97.

⁷ *Id.*, ¶ 278.

(C) shall issue such other regulations as are necessary to implement the amendments [to Section 3(n) and 332 of the Act]; and

(D) shall include, in such regulations, modifications and terminations, such provisions as are necessary to provide for an orderly transition.⁸

Second, the statute provides that for three years from the date of enactment, *i.e.*, until August 10, 1996, existing private land mobile licensees that are subject to reclassification as CMRS providers will continue to be regulated as private service providers.⁹ In light of these transitional provisions in the statute, we decided in the *Second Report and Order* that it was prudent first to determine the classification of existing mobile services and to defer consideration of additional rule changes required in conjunction with implementing these classifications.¹⁰

III. DISCUSSION

A. Scope of Transitional Rule Making

5. While the *Second Report and Order* has established the basic framework for classification of mobile services and the regulatory treatment of CMRS, the Budget Act requires us to address several additional statutory and regulatory issues in this proceeding. First, the statute directs the Commission to ensure that private land mobile licensees who are reclassified as CMRS providers are subject to technical requirements comparable to those that apply to providers of "substantially similar" common carrier services. Therefore, this Further Notice first addresses the issue of what is meant by "substantially similar" services for this purpose. Because one of the principal goals of the Budget Act is regulatory parity within product markets and geographic markets for services that compete with each other, we propose to base the determination of substantial similarity primarily on whether the CMRS providers in question compete to meet similar customer demands for services. We further seek specific comment regarding the extent to which each reclassified Part 90 service can be viewed as competing against other CMRS offerings.

6. Next, we seek comment on how to ensure that our technical and operational rules for reclassified Part 90 licensees and carriers and other service providers offering substantially similar common carrier services are "comparable." We believe that Congress regarded achieving "comparable" regulation in these rules as essential to establishing regulatory symmetry and promoting fair competition among mobile service providers. We therefore propose to identify and eliminate those differences in our existing technical and operational rules that would otherwise result in inconsistent regulation of substantially similar CMRS services. In those instances where we believe that modification of our existing technical and operational rules is required, we generally

⁸ Budget Act, § 6002(d)(3).

⁹ *Id.*, § 6002(c)(2)(B). Although the described services will be treated as private mobile radio services for three years, the provisions of Section 332(c)(6) (foreign ownership) are immediately applicable to all reclassified licensees. See *First Report and Order*, GN Docket No. 93-252, 9 FCC Rcd 1056 (1994).

¹⁰ *Second Report and Order*, ¶¶ 282, 285.

seek comment on which of the following alternatives would best promote competition and ensure regulatory symmetry: (1) extension of the Part 22 rule to Part 90 CMRS services; (2) extension of the Part 90 rule to Part 22 services; or (3) modification of our rules in both Part 22 and Part 90.¹¹ In addition, because of the potential competitive impact of PCS on existing mobile services, we seek comment on the degree to which we should conform our technical and operational rules for existing mobile services with our technical and operational rules for PCS.¹²

7. In some instances, our proposals to amend technical and operational rules in this Further Notice reflect changes to Part 22 and/or Part 90 that have already been proposed in CC Docket No. 92-115, our proceeding to rewrite and simplify Part 22,¹³ or in PR Docket No. 92-235, our "Refarming" proceeding, which proposes to replace Part 90 with simplified and reorganized rules in a new Part 88.¹⁴ In addition, some of the changes we are proposing to our 800 and 900 MHz SMR rules are drawn from previous proposals made in our 800 MHz "Expanded Mobile Service

¹¹ In general, we propose to incorporate the rule changes proposed herein that apply on a service-specific basis into our existing Part 90 and Part 22 rules rather than attempting a "merger" of the two rule parts. In addition, proposed rules that apply uniformly to all CMRS providers will be incorporated into the new Part 20 of our rules established by the *Second Report and Order*. While we do not propose to merge or otherwise reorganize our existing mobile services rules at this time, we do not rule out the possibility of such a reorganization at a later date.

¹² See *First Report and Order*, Amendment of the Commission's Rules to Establish New Personal Communications Services, GEN Docket No. 90-314, 8 FCC Rcd 7162 (1993) (*Narrowband PCS Order*), recon., *Memorandum Opinion and Order*, 9 FCC Rcd 1309 (1994) (*Narrowband PCS Reconsideration Order*); *Second Report and Order*, 8 FCC Rcd 7700 (1993) (*Broadband PCS Order*), recon. pending. In considering whether to conform our existing service rules and our PCS rules, we intend to take into account any action taken in our pending reconsideration of the *Broadband PCS Order*.

¹³ *Notice of Proposed Rule Making*, CC Docket No. 92-115, 7 FCC Rcd 3658 (1992) (*Part 22 Rewrite Notice*). In a separate action in Docket 92-115, we are proposing further revisions to Part 22 that would streamline licensing and other regulatory procedures for cellular service and 931-932 MHz paging service. See *Further Notice of Proposed Rule Making*, CC Docket No. 92-115, FCC No. 94-102 (adopted April 20, 1994; released May 20, 1994) (*Part 22 Further Notice*).

¹⁴ *Notice of Proposed Rule Making*, PR Docket No. 92-235, 7 FCC Rcd 8105 (1992) (*Refarming Notice*). While we believe that the proposals in the *Refarming Notice* to simplify and streamline our Part 90 rules are both relevant to and generally consistent with the goals of this proceeding, it should be emphasized that we do not regard the enactment of Section 332 as having a significant bearing on our proposals in the *Refarming Notice* relating to rechannelization and other technical changes in private land mobile bands below 512 MHz. Under the *Second Report and Order*, most private land mobile services below 512 MHz will continue to be regulated entirely as PMRS, with the exception of commercial 220-222 MHz service, private carrier paging in the 150 and 450 MHz bands, and lower band Business Radio. Moreover, the *Refarming Notice* does not propose any rechannelization or other technical changes in the 220-222 MHz band or on lower band paging frequencies. Thus, the only CMRS licensees that would potentially be affected by rechannelization would be licensees of two-way Business Radio systems below 512 MHz that meet the CMRS definition. See ¶ 18, *infra*.

Provider" (EMSP) docket (PR Docket 93-144)¹⁵ and our 900 MHz "Phase II" proceeding (PR Docket 89-553),¹⁶ both of which deal with wide-area licensing of SMR systems. Although all of these dockets were initiated prior to the Budget Act, we believe that many of the pending proposals put forth in these proceedings may substantially advance the goals of the statute. As discussed in greater detail below, therefore, we incorporate relevant portions of the record from these prior dockets into this proceeding, and we specifically seek comment on the degree to which we should incorporate previously pending proposals for revision to Part 22 and Part 90 into our transitional rules.

8. Next, we address whether to adopt a cap on the amount of CMRS spectrum that licensees may aggregate in a given geographic area.¹⁷ We seek comment on whether, as a result of our allocation of spectrum to PCS and the regulatory determinations made in the *Second Report and Order*, the potential exists for licensees to exert market power by aggregating CMRS spectrum. To ensure that the CMRS market is fully competitive, we seek comment on several alternatives for limiting the amount of CMRS spectrum that may be licensed to a single entity in a given geographic area.

9. Finally, we address the issue of licensing rules for CMRS applicants in those services that were formerly licensed solely on a private basis. Specifically, we propose to ensure that once reclassification becomes effective, all CMRS applications are subject to uniform licensing procedures that comply with the statutory requirements for licensing of common carriers under Title III of the Act, including public notice procedures and alien ownership restrictions. In addition, we propose a transition mechanism for carrying out the reclassification of existing private radio licensees that have been identified as CMRS providers by the *Second Report and Order* but that are not subject to CMRS regulation until the conclusion of the statutory transition period.

B. Comparison of Reclassified Part 90 Services and "Substantially Similar" Common Carrier Services

10. The Budget Act provides that in the case of a former private land mobile service that is reclassified as CMRS, the Commission must amend its rules "as may be necessary and practical to assure that licensees in such service are subjected to technical requirements that are comparable

¹⁵ *Notice of Proposed Rule Making*, Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, PR Docket No. 93-144, 8 FCC Red 3950 (1993) (800 MHz EMSP Notice).

¹⁶ *First Report and Order and Further Notice of Proposed Rule Making*, Amendment of Parts 2 and 90 of the Commission's Rules to Provide for the Use of 200 Channels Outside the Designated Filing Areas in the 896-901 MHz and 935-940 MHz Band Allotted to the Specialized Mobile Radio Pool, PR Docket No. 89-553, 8 FCC Red 1469 (1993) (900 MHz Phase II Notice).

¹⁷ We initially had not included a proposal for a CMRS spectrum aggregation limit in the Further Notice we adopted on April 20, 1994. On reconsideration on our own motion, we voted to adopt the proposal set forth in Section III.D., *infra*, on May 19, 1994. See 47 CFR § 1.108.

to the technical requirements that apply to licensees that are providers of substantially similar common carrier services."¹⁸ The first step in this process is to define what is meant by "substantially similar" services for this purpose.

11. The *Second Report and Order* provides that licensees in the following Part 90 services will be classified as CMRS if they provide for-profit, interconnected service to the public or a substantial portion of the public: 800 and 900 MHz SMR (Part 90, Subpart S), including conventional, trunked, and wide-area systems;¹⁹ private carrier paging in the 150 MHz, 450 MHz and 900 MHz bands (Part 90, Subparts D and P); Business Radio (Part 90, Subpart D)²⁰; and 220-222 MHz commercial two-way nationwide and local service (Part 90, Subpart T). Part 22 also governs a diverse array of commercial mobile services,²¹ including cellular telephone service (Part 22, Subpart K), Offshore Radio Service (Part 22, Subpart L), 800 MHz air-ground service (Part 22, Subpart M), and Public Land Mobile Service (Part 22, Subpart G), which includes common carrier paging service, improved mobile telephone service (IMTS), and 454 MHz air-ground service.

12. Given the diversity of services in Part 90 and Part 22, we seek comment on how determinations of "substantial similarity" should be made, both generally and specifically with respect to each affected Part 90 service. In particular, commenters should focus on comparison between services currently regulated under Part 90 and Part 22, but we also ask commenters to address mobile services that are subject to common carriage regulation but are not covered by Part 22 (e.g., mobile satellite services, public coast station services). We start with the assumption that

¹⁸ Budget Act, § 6002(d)(3)(B).

¹⁹ Conventional SMR systems operate on one to four channels with no trunking allowed, i.e., users must scan each channel for available air time. Trunked SMR systems use blocks of five or more channels, with users automatically routed to an available channel. Our SMR rules contain no definition of "wide-area" SMR systems, but the term is frequently used in the SMR industry to refer to licensees who have accumulated multiple blocks of trunked channels covering a large area based on a showing of "aggregate loading." See ¶¶ 27, 29, *infra*. While the number of channels used by such licensees varies, the technology currently employed by most 800 MHz licensees seeking to build systems that employ frequency reuse requires a block of at least 42 channels in a given area to allow for efficient channel reuse. In the *800 MHz EMSP Notice*, we have proposed to use 42 channels as the standard number of unconstructed channels to be allocated to 800 MHz wide-area licensees, although SMR licensees with constructed systems would be allowed to increase their capacity above 42 channels by adding unconstructed channels to their already-constructed channels. *800 MHz EMSP Notice*, ¶ 19 & n.40. At 900 MHz, we have proposed to license 20-channel blocks on a nationwide and regional basis, with licensees allowed to aggregate up to 40 channels in some areas by combining nationwide and regional or local allocations. *900 MHz Phase II Notice*, ¶¶ 13-14.

²⁰ Subpart D regulates Business Radio systems on frequencies below 512 MHz, which are potentially subject to reclassification as CMRS because they may provide interconnected service on a for-profit as well as a not-for-profit basis. In addition, we have allocated frequencies in the 800 and 900 MHz bands for Business Radio use, regulated under Subpart S. Business Radio systems in these bands, however, are prohibited from selling service to customers for profit. 47 CFR § 90.179(g). Therefore, they are not subject to reclassification as CMRS.

²¹ Part 22 also contains regulations for the Rural Radio service, which is a fixed service and therefore not subject to Section 332 of the Act.

a principal objective of Congress in revising Section 332 was to benefit consumers by promoting competition in the mobile services marketplace. Congress created CMRS as a new classification of mobile services to ensure that similar mobile services are accorded similar regulatory treatment.²² Consistent with that objective, our role is to establish a regulatory regime under which the marketplace -- and not the regulatory arena -- shapes the development and delivery of mobile services to meet the demands and needs of consumers.²³ Reliance on market forces will ensure that the most efficient service providers prevail. This will create incentives for firms to offer innovative and improved services at the lowest possible costs, and will also ensure that investment decisions are driven by consumer demands rather than regulations.

13. To this end, we believe the analysis of whether services are "substantially similar" should focus primarily on the services provided to end users and the extent to which such services meet substantially similar customer needs and demands. Under this approach, services that compete against each other to provide similar services to customers would be presumed to be substantially similar for purposes of comparing their technical and operational rules. We believe that this approach is consistent with Congress's mandate in the Budget Act that similar services should be accorded similar regulatory treatment. Where two service providers offer similar services to customers in competition with each other, disparities in the technical and operational rules under which the respective services operate could provide one competitor with an unfair advantage over the other, which in turn could lead to the provision of service by an otherwise higher-cost or lower-quality provider. Thus, in order to determine whether to amend our technical and operational rules, we must first determine the competitive relationship between the services. We request comment on this analysis.

14. We also request comment on specific factors we should use under this approach to determine whether specific CMRS offerings are competitive with other CMRS services. For example, we could look at the way various CMRS services are marketed to customers, *i.e.*, whether service providers claim that their service is substitutable for a common carrier service. Another approach would be to examine whether customers are actually choosing between two services when deciding which mobile service to use. Finally, we could look at both the marketing strategies of CMRS providers as well as factors a customer considers when choosing a service. We invite commenters to address these examples, to suggest other possible relevant factors, and to provide specific comparisons between formerly private services that have been reclassified as CMRS and all existing common carrier mobile services.

1. Specialized Mobile Radio

15. We seek specific comment on the degree to which SMR service is "substantially similar" to any Part 22 mobile service. Historically, SMR was used by licensees primarily to provide dispatch service for businesses, which Part 22 licensees are currently prohibited from

²² See *Second Report and Order*, ¶ 13 & n.29.

²³ *Id.*, ¶ 19.

providing.²⁴ Many SMR systems continue to provide dispatch service and will be regulated as PMRS so long as they do not provide interconnected service.²⁵ As we first recognized in our *Fleet Call* decision, however, some licensees are using SMR as a vehicle to develop wide-area multi-channel interconnected systems that potentially offer the public a competitive alternative to cellular service.²⁶ In the *Second Report and Order*, we further noted that the advent of wide-area multi-channel SMR was one of the factors that led Congress to revise Section 332 so that these services would be reclassified as CMRS.²⁷ These similarities suggest that wide-area SMR service and cellular service could be viewed as substantially similar for purposes of the statute. We seek comment on this view.

16. The apparent similarities between wide-area SMR and cellular service, however, do not necessarily apply to all SMR licensees who provide interconnected service and are therefore classified as CMRS providers. In many cases, licensees of local conventional or trunked SMR systems offer only limited interconnected service on a secondary basis to their dispatch operations. The interconnected service offered by these systems to their customers bears little resemblance to cellular service in terms of geographic range, channel capacity, or technical quality, nor does it appear that these licensees are attempting to market their service as a replacement for cellular service. In some respects, the interconnected service offered by these small, local SMR systems may be less analogous to cellular than to traditional common carrier radiotelephone service provided by IMTS licensees.²⁸ We therefore seek comment on whether this type of SMR service should be regarded as substantially similar to IMTS or any other non-cellular Part 22 service.

2. 220-222 MHz Service

17. We also seek comment on whether commercial interconnected 220-222 MHz services

²⁴ As amended by the Budget Act, Section 332(c)(2) of the Communications Act confers authority on the Commission to lift the dispatch prohibition. We intend to consider whether the dispatch prohibition should be retained or eliminated in an upcoming proceeding.

²⁵ Our current licensee data base indicates that approximately half of existing SMR station licenses are for the provision of non-interconnected service. Because wide-area interconnected systems typically contain many more stations than dispatch-only systems, this suggests that while many licensees of large systems may be reclassified as CMRS providers, a larger number of small system licensees are likely to remain classified as PMRS providers.

²⁶ See *Fleet Call, Inc., Memorandum Opinion and Order*, 6 FCC Rcd 1533, recon. dismissed, 6 FCC Rcd 6989 (1991). See also *800 MHz EMSP Notice*, ¶¶ 3-4.

²⁷ *Second Report and Order*, ¶¶ 7, 13.

²⁸ Like IMTS systems, traditional SMRs typically utilize small numbers of paired channels and provide service with a blocking probability much higher than two percent. This is in contrast to cellular systems, which reuse large numbers of channels and provide service with a blocking probability of less than two percent. Traditional SMRs also typically use high-power base station transmitters located at high elevations in order to maximize the service range of each station, while cellular systems use multiple low-power cell sites with moderate service ranges and reuse their channels at relatively short intervals.

that are reclassified as CMRS are substantially similar to any Part 22 mobile service. The commercial 220 MHz service was established in 1992 to allow licensees to provide two-way narrowband service on both a local and a nationwide basis.²⁹ Because licensing of the band only commenced in 1993 and most systems are not yet constructed,³⁰ it is difficult to assess whether commercial 220 MHz licensees will in fact provide service that is similar to any Part 22 service. Based on the limited amount of spectrum available to licensees, however, it appears unlikely that 220 MHz licensees would offer services similar to those provided by cellular or other broadband licensees. Moreover, unlike existing narrowband paging services, 220 MHz is expressly intended for two-way use. Notwithstanding these distinctions, we seek comment on whether 220 MHz service should be viewed as a potential competitive alternative to existing common carrier services. We also seek comment on whether 220 MHz service, particularly on nationwide channels, may be more similar to two-way services likely to be provided by narrowband PCS licensees than to any existing Part 22 service.

3. Business Radio

18. In the *Second Report and Order*, we determined that Business Radio licensees would be reclassified as CMRS if they provide for-profit, interconnected service to customers.³¹ As a practical matter, however, the degree to which Business Radio licensees currently offer services that are similar to or competitive with existing common carrier services appears to be limited. Our licensing records indicate that the vast majority of Business Radio authorizations are for non-profit or non-interconnected uses that will continue to be classified as PMRS.³² To the extent that Business Radio licensees do provide for-profit interconnected service, such service appears to be more similar to the limited interconnection provided by small conventional SMR systems than to "cellular-type" service. In contrast to SMR, however, licensees have generally not attempted to use Business Radio as a platform for the development of wide-area multi-channel systems. This may be due in part to the fact that most Business Radio frequencies are licensed on a non-exclusive basis

²⁹ See *Report and Order*, Amendment of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Services, PR Docket No. 89-552, 6 FCC Rcd 2356 (1991), *recon.*, 7 FCC Rcd 4484 (1992).

³⁰ Because of uncertainty created by a judicial appeal of our filing procedures for 220 MHz applications, which was recently dismissed, all 220 MHz non-nationwide licensees have been granted an extension until December 4, 1994 to construct their systems and commence operations. See *Order*, PR Docket No. 89-552, DA 94-276 (adopted March 28, 1994; released March 30, 1994).

³¹ *Second Report and Order*, ¶ 87. Because Business Radio systems above 800 MHz are prohibited from providing for-profit service, the discussion of Business Radio in this Further Notice is limited to licensees below 800 MHz who are subject to reclassification as CMRS.

³² According to our current licensing records, fewer than two percent of existing Business Radio licenses authorize the licensee to provide for-profit, interconnected service.

and therefore must be shared by multiple licensees.³³ In light of these factors, we seek comment on whether CMRS licensees on Business Radio channels should be considered to provide service that is substantially similar to services provided by Part 22 licensees.

4. Paging

19. Our existing Part 90 and Part 22 paging services appear to be similar in many respects. Both private and common carrier paging licensees provide one-way messaging service that is essentially interchangeable from the customer's point of view. The similarity of the services is accentuated by the fact that paging licensees in each band contend with certain common operating conditions and use similar technology regardless of their regulatory status. The principal historical difference between private and common carrier paging is that wide-area regional and nationwide paging service developed earlier on common carrier frequencies, perhaps because private paging frequencies have historically been shared while common carrier paging frequencies have always been exclusive. In a recent docket, however, we adopted rules for licensing most private paging frequencies above 900 MHz on an exclusive basis that is similar, although not identical, to our licensing of common carrier paging channels.³⁴ We expect this step to lead to the development of local, regional, and nationwide CMRS paging systems on these frequencies that are technically similar to and competitive with existing common carrier systems. Based on these factors, we tentatively conclude that private and common carrier paging should be deemed substantially similar for statutory purposes. We request comment on this tentative conclusion, and specifically on whether our analysis should differ for paging on Part 90 frequencies below 900 MHz because these paging frequencies continue to be shared. We also ask commenters to address whether paging licensees using Part 90 frequencies below 900 MHz are presently providing service in competition with services provided by common carrier paging systems.

C. Technical and Operational Rules

20. If the Commission determines that a reclassified private land mobile service is "substantially similar" to a common carrier service, as discussed above, the Budget Act requires that we modify our rules, to the extent "necessary and practical," to ensure that the two services are subject to "comparable" technical requirements.³⁵ We believe that Congress inserted this

³³ As noted above, Business Radio frequencies above 800 MHz are licensed on an exclusive basis, but may not be used to provide for-profit service. See note 20, *supra*.

³⁴ *Report and Order*, Amendment of the Commission's Rules to Provide Exclusivity to Qualified Private Paging Systems at 929-930 MHz, PR Docket No. 93-35, 8 FCC Rcd 8318 (1993) (*900 MHz PCP Exclusivity Order*), *recon. pending*.

³⁵ Budget Act, § 6002(d)(3). The Conference Report states that this provision is intended "to ensure that services that were formerly private land mobile services and become common carrier services as a result of this Act are subjected to technical requirements that are comparable to the technical requirements that apply to similar common carrier services." H.R. Rep. No. 103-213, 103d Cong., 1st Sess. (1993) at 498.

requirement in recognition of the fact that our existing technical and operational rules³⁶ in Part 90 and Part 22 are premised on the old private and common carrier classifications that were eliminated by the Budget Act. The statute therefore requires us to modify these rules as necessary so that CMRS licensees providing substantially similar services will not be subject to inconsistent regulation arising out of their prior regulatory status.

21. While seeking regulatory consistency, however, Congress also appears to have recognized that some of our existing technical and operational rules may reflect objective differences in the technical configuration and operation of particular services. The statute expressly focuses on regulations that affect providers of "substantially similar" commercial mobile radio services and requires only such rule changes as are "necessary and practical" to achieve regulatory consistency. This language suggests that even where we determine that commercial mobile radio services regulated under Part 90 and Part 22 are substantially similar, we are not compelled to modify our existing rules if such modification is unnecessary to achieve regulatory symmetry or is otherwise impractical. Moreover, even where we determine that inconsistencies in Part 90 and Part 22 should be conformed, the statute does not compel the rigid application of a uniform rule but affords us the discretion to fashion "comparable" rules.³⁷

22. Based on this statutory language, it appears that the Commission has substantial flexibility to determine what technical and operational rule changes are needed to eliminate regulatory inconsistency and what rules the statute does not require to be modified. At this stage in the transition to regulation under revised Section 332, we propose to focus primarily on identifying and conforming differences in technical and operational rules in Part 90 and Part 22 that would otherwise lead to arbitrary and inconsistent treatment of substantially similar CMRS licensees. In addition, we seek comment on whether these technical and operational rules should be fashioned to ensure a basic level of consistency with our PCS rules, which potentially provide another avenue for the development of CMRS applications that are "substantially similar" to existing Part 22 and Part 90 services.

23. In determining whether inconsistencies in the rules should be eliminated or modified, we propose to place particular emphasis on the effects that our various options might have on the future course of competition between providers of substantially similar services. For example, if a reclassified private carrier is subject to rules that vary from the rules governing the operations of

³⁶ Although the statute refers to "technical" regulations, we believe Congress's use of the term can be construed to include operational as well as technical regulations affecting the delivery of service by CMRS providers. While the Conference Report does not discuss the meaning of this term, the report accompanying the House version of the statute upon which the final language of this provision was based requested the Commission to make "a complete assessment of its rules affecting private land mobile" to determine whether such rules still serve the public interest. H.R. Rep. No. 103-111, 103d Cong., 1st Sess. (1993) at 15.

³⁷ The final version of the statute appears to have been amended to provide more flexibility in this regard. The House version of the legislation would have required the Commission to "equalize" the regulatory treatment of substantially similar mobile services. See H.R. 2264, 103d Cong., 1st Sess., § 5206(b)(3)(B), 139 Cong. Rec. H3089 (May 27, 1993).

its CMRS competitors, we propose to examine the effect that equalization of the rules would have upon ongoing competition between existing licensees as well as the prospects for entry by new competitors. We also would need to examine various options for equalizing the rules in order to determine the possible effects of each option on competition. Finally, we would need to assess whether competition (in the short run or in the long run) might be harmed by such changes in the rules because of practical considerations and difficulties that might be associated with the changes. For example, if a possible change to our technical rules could affect the types of equipment a carrier uses to provide service, we would need to examine the extent to which costs incurred in the conversion to new equipment might impede the carrier's ability to compete.

24. Even in instances where we determine that changes to our technical and operational rules could promote competition, we request comment on the extent to which it is "necessary and practical" at this time to revise specific technical and operational rules to ensure that licensees in reclassified private land mobile services and licensees who provide substantially similar common carrier services are subjected to comparable technical requirements. For example, if a reclassified PMRS offering is substantially similar to another CMRS offering, our analysis would require that we consider modifications to our rules to equalize as much as possible (1) the traffic capacity of the assigned spectrum (*e.g.*, the number of channels available to licensees); (2) the size of the geographic areas in which the similar services are licensed to be provided; (3) the height of antennas and the power of transmitters that the similar services are authorized to use and the reliable service area of each transmitter; (4) the degree of co-channel and adjacent channel interference to which the similar services are subject; and (5) other related technical and operational rules affecting the provision of the similar services. At the same time, there may be instances where we should not change our existing rules, either because the differences in the rules applicable to competing services have a reasonable basis unrelated to competitive considerations or because changing the rules would be impractical. We seek comment on the degree to which the statute gives us the discretion to retain our existing rules based on these factors.

1. Technical Rules

25. We first turn to our technical rules for Part 90 and Part 22 services, including channel assignments, service areas, co-channel protection criteria, transmitter specifications (*e.g.*, emission masks, bandwidth, frequency stability), transmitter operations (*e.g.*, power, antenna height), and modulation schemes. We seek comment on what changes to our technical rules are required to achieve the statutory objectives discussed above and what rules should be retained. We also seek comment on whether we should consider additional changes to our technical rules that would simplify our regulations and facilitate the transition to the new regulatory regime, even if such changes are not immediately required to ensure consistent regulatory treatment of CMRS.

a. Channel Assignment and Service Area

1) Background

26. Perhaps the most basic technical rules in our mobile services regulations are those that govern the amount of radio spectrum assigned to licensees in each service and the geographic area to be served by each licensee. Historically, we have adopted widely varying approaches from service to service. For example, in cellular and broadband PCS, we have allocated large blocks of contiguous spectrum to a limited number of licensees within Commission-defined service areas to enable licensees to provide broadband service to the public: cellular licensees are allocated 25 MHz of spectrum, divisible into 416 paired channels, for use within their Cellular Geographic Service Areas (CGSAs),³⁸ while broadband PCS licensees will receive 10, 20, or 30 MHz blocks spectrum on a BTA, MTA, or nationwide basis.³⁹

27. On the other hand, SMR licensees in the 800 MHz band are assigned either one or five channels at a time from the available pool of 280 channels,⁴⁰ although licensees may accumulate additional channels by demonstrating adequate system loading,⁴¹ and licensee service areas are station-based, *i.e.*, defined by the location, antenna height, and transmitter power of each base station in the licensee's system.⁴² In the 900 MHz SMR band, we have allocated 200 channels in 10-channel blocks.⁴³ To date, licensing at 900 MHz has been limited to 46 Commission-defined "Designated Filing Areas" (DFAs), which roughly correspond to a 100-mile radius around each of the top 50 urban markets in the country.⁴⁴ In our *900 MHz Phase II* docket, we have proposed to

³⁸ 47 CFR §§ 22.902(b), 22.903(a). The CGSA is the composite of the service areas of all cells in the licensee's system. In the initial licensing phase for cellular, licensees were allowed a five year fill-in period from the license grant date to expand their CGSAs within the borders of their designated MSAs or RSAs. During this period, a licensee's CGSA cannot extend into an adjacent MSA/RSA without the adjacent licensee's consent, although some exceptions have been made for *de minimus* expansion. *Id.*, §§ 22.903(a),(c). Unserved area CGSAs are also restricted to a single MSA or RSA during "Phase I" licensing, but may cover unserved areas in more than one MSA/RSA in Phase II. *Id.*, 22.902(b)(4).

³⁹ See *Broadband PCS Order*, ¶ 56.

⁴⁰ 47 CFR §§ 90.617, 90.621(a)(1)(iv), 90.623. Fewer channels are available in the US/Mexico and US/Canada border regions. *Id.*, § 90.619. The 150 General Category channels are also available for assignment to SMR systems as well as other Part 90 services. See *id.*, § 90.615.

⁴¹ *Id.*, §§ 90.631(c), 90.633(e). See also ¶¶ 67-73, *infra*.

⁴² 47 CFR § 90.621(c). See also *Report and Order*, Co-Channel Protection Criteria for Part 90, Subpart S Stations Above 800 MHz, PR Docket No. 93-60, 8 FCC Rcd 7293 (1993) (*800/900 MHz Co-Channel Protection Order*).

⁴³ 47 CFR §§ 90.617 (non-border area frequencies), 90.619 (border area frequencies), 90.621(a), 90.623.

⁴⁴ See Public Notice, Private Land Mobile Application Procedures for Spectrum in the 896-901 MHz and 935-940 MHz Bands, 1 FCC Rcd 543 (1986).

begin licensing outside the DFAs so that systems may operate on a nationwide, regional, and local basis.⁴⁵

28. The Commission has adopted diverse approaches to channel assignment in other mobile services as well. Under Part 22, common carrier paging and two-way IMTS systems operate on several bandwidths that are assigned on a channel-by-channel basis, with service areas defined by geographic separation between stations.⁴⁶ Under Part 90, Business Radio licensees operate on single channels, most of which do not have defined service areas because frequencies are subject to co-channel sharing.⁴⁷ Private paging frequencies are also assigned on a co-channel sharing basis, except in the 929-930 MHz band, where we have recently converted to exclusive licensing of local, regional, and nationwide systems.⁴⁸ In the 220-222 MHz service, 130 channels are allotted singly or in five-channel blocks for local commercial or non-commercial use, while four five-channel blocks are licensed for commercial use on a nationwide basis.⁴⁹ Finally, in narrowband PCS, licensees will be allotted one to three narrowband channels in a BTA, one of five designated PCS regions, or nationwide.⁵⁰

2) Discussion

i. SMR

29. We first seek comment on whether our channel assignment rules for 800 or 900 MHz SMR should be revised to facilitate licensing on a wide-area, multi-channel basis comparable to our licensing of cellular and broadband PCS spectrum. As noted above, our existing 800 MHz SMR rules were designed to license spectrum on a site-by-site, channel-by-channel basis. As a result, SMR licensees seeking to build wide-area multi-channel systems, unlike cellular or broadband PCS licensees, must apply separately for each individual station site and for each conventional channel or trunked channel group in its system. To facilitate development of wide-area systems under these procedural requirements, we have granted waivers and, more recently, adopted rules allowing licensees an extended time period to construct their systems. If we determine that these services are in fact substantially similar to cellular or PCS, however, it could also be argued that the statute requires us to develop comparable channel assignment procedures for SMR licensees that will

⁴⁵ 900 MHz Phase II Notice, ¶¶ 10-19.

⁴⁶ See generally 47 CFR §§ 22.501 *et seq.*

⁴⁷ Business Radio channels below 470 MHz are licensed on a shared basis. 47 CFR §§ 90.75(b), 90.173(a). Business Radio licensees may obtain exclusivity on certain frequencies in the 470-512 MHz band by meeting loading requirements, but these frequencies are also allocated to UHF-TV and are therefore available in only 13 markets. *Id.*, §§ 90.311, 90.313.

⁴⁸ *Id.*, §§ 90.75(b), (c)(10); 90.494(a). See generally PCP Exclusivity Order, ¶¶ 9-21.

⁴⁹ 47 CFR §§ 90.715, 90.717, 90.719, 90.721.

⁵⁰ See Narrowband PCS Reconsideration Order, ¶ 15.

enhance their ability to compete.

30. The issue is complicated, however, by the varied nature of 800 MHz SMR services. Although some SMR licensees have accumulated a sufficient number of channels in certain markets to establish wide-area "cellular-type" service, many others operate traditional SMR systems designed primarily to provide dispatch service to small groups of customers.⁵¹ These licensees typically do not require wide-area multi-channel assignments, and many of them are likely to be classified as PMRS rather than CMRS because they do not provide interconnected service. In addition, our channel assignment procedures often result in traditional and wide-area systems operating on the same or adjacent channels in close proximity to each other. Given this diversity of existing uses of 800 MHz channels, we seek comment on the manner in which any revisions to our channel assignment rules intended to make wide-area SMR service more comparable to other wide-area CMRS offerings should be tailored to minimize disruption to other segments of the SMR industry and the services they provide.

31. In this regard, we believe a possible alternative at 800 MHz would be to retain our existing channel assignment rules for traditional SMR systems, but also to establish an alternative mechanism for licensees who seek to provide multi-channel wide-area service. This is similar to the approach that we proposed for 800 MHz wide-area licensing in the *800 MHz EMSP Notice* shortly before passage of the Budget Act. In that docket, we proposed to streamline our site-by-site, channel-by-channel licensing procedures so that licensees would be able to acquire blocks of up to 42 unconstructed channels within an MTA-based service area under a single "EMSP" license.⁵² We further proposed that licensees would not be required to demonstrate loading to obtain an EMSP license, but would instead be required to cover 80 percent of their service areas within five years.⁵³

32. In light of the statutory changes that have occurred since comments were received in response to the *800 MHz EMSP Notice*, we believe that further comment should be elicited on our approach to 800 MHz SMR licensing. We continue to believe that a wide-area alternative at 800 MHz is both feasible and consistent with the statutory goal of achieving comparable technical rules for substantially similar services. Our current view of this issue, however, is influenced by the fact that a high volume of applications in recent months has caused the 800 MHz band to become heavily occupied in virtually all major markets and in many secondary markets and rural areas as well. In addition, 800 MHz licensees who have already been granted extended implementation periods to construct wide-area systems have already substantially defined their intended service areas. We therefore seek comment on whether the amount of spectrum still available at 800 MHz is sufficient to support multi-channel licensing on an MTA-wide basis, or whether imposing such a structure might actually impede the growth of wide-area service.

⁵¹ According to a recent study, at the end of 1992, there were 295,000 interconnected SMR mobile units in service and 1,048,000 dispatch SMR mobile units. Merrill Lynch, "SMR in the United States: a Window of Opportunity," at 31 (Table 11) (Oct. 1993). See also note 25, *supra*.

⁵² *800 MHz EMSP Notice*, ¶¶ 20-32.

⁵³ *Id.*, ¶¶ 37-39.

33. As an alternative to MTA-based licensing, we seek comment on whether our wide-area objectives could be more practically achieved by allowing 800 MHz licensees to establish and operate in self-defined service areas. Under one possible approach, 800 MHz licensees seeking to provide wide-area service would immediately designate the areas in which they intend to operate, based either on the aggregate area covered by their existing authorizations or on new applications to cover designated areas where frequencies are available. Licensees authorized to provide wide-area service on this basis would then have a fixed period of time to build out their systems based on our existing extended implementation rules for SMR, which allow licensees who meet the requirements of the rules up to five years to construct wide-area systems.⁵⁴ Another alternative would be to require 800 MHz licensees who are constructing wide area systems under extended implementation authority to define their service areas at the end of the statutory transition period for grandfathered licensees (*i.e.*, August 10, 1996), and would then have until the expiration of their extended implementation period to complete construction. Under either scenario, a wide-area licensee's service area would ultimately be defined based on facilities actually constructed and operating at the conclusion of the construction period, after which the Commission would take back authorizations in still-unserved areas for relicensing. We seek comment on these alternatives and on any other procedures for 800 MHz wide-area licensing that would be consistent with the goal of establishing comparable technical rules for substantially similar services.

34. In contrast to 800 MHz, the 900 MHz SMR band has not been extensively licensed, causing occupancy to remain relatively light. We therefore seek comment on whether we should proceed with our *900 MHz Phase II* proposal to introduce wide-area licensing in the 900 MHz SMR band. Based on the comments to that proceeding, which we incorporate into the record here, and based on subsequent decisions regarding allocations for PCS, we believe that licensing of 900 MHz could readily proceed on an MTA, BTA, and nationwide basis. While the channel blocks available to 900 MHz licensees would be less spectrum than is available to 800 MHz SMR, cellular, or broadband PCS licensees,⁵⁵ we believe that the assignment of contiguous channels on a wide area-basis would allow licensees to create viable regional and national CMRS systems, providing needed voice and data communication services to a variety of end users. We seek comment on this approach.

ii. Other Part 90 Services

35. We also seek comment on whether it is necessary or practical to revise our channel assignment rules with respect to Part 90 services other than SMR that are subject to reclassification as CMRS. For example, in the case of Business Radio and private paging services assigned to shared frequencies below 800 MHz, we have sought comment on whether licensees are providing

⁵⁴ See 47 CFR § 90.629.

⁵⁵ We have proposed to license the 200 SMR channels in the 900 MHz band based on 20-channel blocks. *900 MHz Phase II Notice*, ¶¶ 13-14.

service that is "substantially similar" to existing Part 22 services licensed on exclusive channels.⁵⁶ Even if we conclude that substantial similarity exists, however, the extensive sharing of channels by existing licensees on these frequencies could make it difficult to superimpose a system of exclusive channel assignments comparable to our assignment of common carrier frequencies.⁵⁷ In addition, any change to our channel assignment rules in these bands would necessarily affect the operations of numerous PMRS as well as CMRS licensees in these services. We seek comment on this analysis. Specifically, assuming *arguendo* that we find Part 90 services other than SMR to be substantially similar to CMRS services, we ask commenters to address the issue of whether we should limit the shared use of channels in such services as a means of promoting competition. If such limitations are necessary, we also ask commenters to suggest methods by which such limitations could be implemented to achieve comparable technical requirements while at the same time minimizing the practical concerns we have identified in this paragraph.

36. In the case of 900 MHz paging, our rules for assigning common carrier and private paging frequencies are already very similar. The 40 common carrier paging channels at 931-932 MHz are assigned exclusively based on geographic separations between stations, except for three channels that have been designated for nationwide systems.⁵⁸ In our *900 MHz PCP Exclusivity Order*, we recently adopted a similar although not identical approach for 35 of the 40 929-930 MHz private paging frequencies that allows licensees to earn local, regional, or nationwide exclusivity by constructing systems of a specified size and configuration.⁵⁹ Because geographic separation criteria for systems on these channels are identical to the separations applied to 930-931 MHz common carrier paging systems, this step has arguably made our channel assignment rules in these services "comparable" for statutory purposes. It could also be argued, however, that some additional conforming of these rules is required.⁶⁰ We seek comment on this issue.

37. In addition, we encourage commenters to address whether we should continue to use station-defined service areas in 900 MHz paging generally or whether it is feasible to base future licensing on Commission-defined service areas. The latter approach would arguably be consistent

⁵⁶ See ¶¶ 18-19, *supra*.

⁵⁷ In the *Refarming Notice*, we proposed to use a marketplace mechanism called "exclusive use overlay" (EUO) to enable licensees to convert shared channels to exclusive channels in the 150-174, 421-430, and 450-470 MHz bands. Under EUO, a channel may be designated as exclusive to a given licensee (*i.e.*, closed to new licensing in a designated area) if all fully loaded co-channel licensees in the area consent to the designation. See *Refarming Notice*, ¶ 12, Appendix A at 10.

⁵⁸ See 47 CFR §§ 22.501(p)(1), 22.503(d).

⁵⁹ See *900 MHz PCP Exclusivity Order*, ¶ 18-19; 47 CFR §§ 90.495(a),(b). Prior to the *Report and Order*, all 929-930 MHz paging channels were allocated on a shared basis, and five of the 40 channels will continue to be shared.

⁶⁰ For example, while Part 90 and Part 22 use identical separation criteria, Part 22 also provides for a "reliable service area" around each paging station for purposes of interference protection. See 47 CFR § 22.504(b). Part 90 contains no similar provision.

with our narrowband PCS decision, in which we opted to allocate spectrum based on Commission-defined service areas (*e.g.*, BTAs) rather than on station-defined geographic separations. Because narrowband PCS will operate on spectrum adjacent to existing 900 MHz paging frequencies and is suitable for advanced paging and messaging services, adopting comparable service areas for 900 MHz paging could increase opportunities for channel aggregation across all 900 MHz narrowband services in a common service area. We seek comment on this view.

38. Finally, we seek comment on channel assignment in the 220 MHz service. The 220 MHz band includes four five-channel blocks of paired narrowband (5 kHz) channels for nationwide commercial use, 20 five-channel blocks available for either commercial or non-commercial use on a local basis, and 30 additional local narrowband channels available either individually or in groups. As noted above, because 220 MHz is a new service, it is difficult to assess whether it is likely to compete with any existing Part 22 service or whether it will be a competitor of narrowband PCS. Nonetheless, assuming that we find 220 MHz service to be substantially similar to CMRS services, we seek comment regarding whether and to what extent we should revise the channel assignment and service area rules applicable to 220 MHz service in order to achieve comparable technical requirements between 220 MHz service and competitive CMRS services. In this regard, we note that a Petition for Declaratory Ruling on this issue has been filed by SunCom Mobile & Data, Inc. (SunCom).⁶¹ Specifically, SunCom seeks permission to aggregate non-nationwide 220 MHz five-channel blocks on a regional basis so that it may provide multiple-market service on a single system.⁶² We are incorporating the SunCom petition into this docket and invite comment on whether the statutory goals at issue in this proceeding would be furthered by allowing regional licensing of 220 MHz systems, and if so, what regulatory restrictions would be appropriate to ensure comparable treatment to similar mobile services (*e.g.*, limiting the number of channels available to a single licensee within a particular area, designating areas of operation in accordance with Commission-defined regions, such as BTAs or MTAs, etc.).

b. Co-Channel Interference Protection

39. Background. Most of our existing mobile services (other than those on shared channels) operate under co-channel interference rules to ensure that licensees do not cause interference to adjacent licensees operating on the same frequency.⁶³ Because these rules are integrally related to the service area definitions used in each service, co-channel protection criteria vary from service to service. A key factor in formulating these criteria is whether the service uses Commission-defined or station-defined service areas. Where Commission-defined areas (*e.g.*,

⁶¹ Request for Declaratory Ruling and Request for Rule Waiver, dated February 1, 1994.

⁶² Section 90.739 provides that no 220 MHz licensee will be authorized to operate multiple stations in the same channel category (*e.g.*, five-channel non-nationwide) within 40 miles of each other "unless that licensee can demonstrate that the additional system is justified on the basis of its communications requirements." *See also Report and Order*, PR Docket No. 89-552, 6 FCC Rcd 2356 (1991), ¶¶ 58-59.

⁶³ Licensees on shared frequencies are required to cooperate with each other to avoid harmful co-channel interference. 47 CFR § 90.173(b).

MSAs, MTAs, BTAs) are used, as in cellular, broadband PCS, and narrowband PCS, the rules are typically designed to prevent interference at or near service area boundaries, but licensees have significant flexibility over the placement and operation of stations away from border areas.⁶⁴ On the other hand, where service areas are station-defined, as in the Public Land Mobile Services, 800/900 MHz SMR, 900 MHz paging, and local 220-222 MHz service, each base station in the licensee's system must be located and operated in accordance with strict geographic separations and/or field strength determinations in order to ensure that the co-channel stations of other licensees are protected.⁶⁵

40. Discussion. We seek comment on whether the statutory goal of comparable technical regulation for substantially similar services requires us to revise our co-channel interference criteria for any mobile service. We recognize that this is a particularly complex issue because changes to our current rules could have a direct impact on the location of stations and selection of equipment in existing systems. If we elect to impose stricter interference protection criteria in a particular service, for example, licensees could be required to make costly equipment changes to reduce the potential for interference. Conversely, relaxing existing interference rules could result in licensees facing increased interference from co-channel stations. We seek comment on these issues, and specifically invite commenters to provide information on the type and level of potential costs to licensees that would result from modifying existing interference protection criteria. We also seek comment on whether such changes should be made only if (1) existing interference criteria for substantially similar services are plainly inconsistent, and (2) conforming the rules would not impose unnecessary burdens on licensees. We also seek comment on the potential nature and extent of such burdens and on the weight that competitive factors should be given in our assessment of the need to conform the rules.

41. We note that a cautious approach to rule revisions in this area does not imply that no changes to our co-channel interference rules can be justified. For example, our proposals to

⁶⁴ Cellular licensees, for example, must coordinate frequency usage within 75 miles of their CGSA borders with adjacent licensees. 47 CFR § 22.902(d)(1). Narrowband PCS licensees must maintain 70-mile separation from co-channel stations in neighboring regions and must also reduce base station antenna height and transmitter power at distances of less than 200 kilometers (124 miles) from the service area border. *Id.*, §§ 99.132(e), 99.134. Subject to reconsideration, broadband PCS licensees will be required to limit their signal field strength to 47 dBu at the border of their service areas. *Id.*, § 99.232. (The Commission's PCS rules, originally contained in Part 99, have recently been redesignated as Part 24. *Second Report and Order*, Appendix A, at 10. This redesignation has not yet taken effect.)

⁶⁵ Placement of co-channel stations in the Public Land Mobile Service is determined by geographic separations based on antenna height and transmitter power, and each station receives protection from interference within a "reliable service area." See 47 CFR § 22.503, 22.504. The reliable service area is based on field strength contour, except in the case of 931-932 MHz paging, where a geographic radius is used. *Id.*, § 22.504(b)(2). SMR stations are subject to a standard separation of 113 kilometers (70 miles), although licensees may "short-space" stations down to 88 kilometers (55 miles) by reducing their antenna height and transmitter power pursuant to a separations table based on a 40/22 dBu interference ratio. *Id.*, § 90.621(b); see also *800/900 MHz Co-Channel Protection Order*, ¶¶ 10-13. The minimum separation between stations in co-channel local 220 MHz systems is 120 kilometers (75 miles), although licensees may short-space based on a 38/10 dBu interference ratio. *Id.*, § 90.723(f).

establish wide-area service in the 800 and 900 MHz SMR bands could potentially eliminate the need for station-defined co-channel protection criteria for wide-area licensees. If we proceed with these proposals, we seek comment on whether wide-area licensees should be subject to restrictions on co-channel station separation or interference other than at the borders of their service areas. In the *800 MHz EMSP Notice*, for example, we proposed to eliminate separation requirements for wide-area licensees (except as necessary to protect existing non-wide-area systems) and instead to require only that wide-area licensees limit their signal strength to 22 dBu at their service area borders.⁶⁶ We have proposed a similar approach in the *900 MHz Phase II Notice* based on a 30 dBu signal at the service area border.⁶⁷ Such an approach to co-channel separation for wide-area SMR systems would be similar to the rules applicable to cellular systems, which require licensee coordination of frequency usage within a given distance of a common border, and the rules adopted for PCS, which also specify maximum border area field strength.⁶⁸ We therefore seek comment on whether adoption of the criteria proposed in our 800 and 900 MHz dockets would meet the statutory requirement of comparable technical regulation for substantially similar services.

c. Emission Masks

42. Background. To protect against adjacent channel interference, most mobile radio services operate under "emission mask" rules that restrict transmitter emissions on a range of frequencies removed from the licensee's assigned frequency. These rules typically vary depending upon the bandwidth and spacing of channels in each particular service (*e.g.*, 25 kHz channels for 800 MHz systems, 12.5 kHz channels for 900 MHz systems, 30 kHz channels for cellular systems, etc.) and the manner in which adjacent channels in the service are allocated. For example, licensees in Part 90 services that are assigned small numbers of channels within a limited geographic area are likely to have other licensees operating on adjacent channels within the same geographic area. Thus, a "tight" emission mask is required to ensure minimal interference among such systems.⁶⁹ Conversely, cellular licensees, who receive large numbers of contiguous channels within a large geographic area and design their systems in a cellular configuration, have more flexibility to use channels in a manner that minimizes interference to themselves and any neighboring cellular operators. Cellular emission mask standards, therefore, are less rigorous than Part 90 standards.⁷⁰

⁶⁶ *800 MHz EMSP Notice*, ¶¶ 35-36. Because of the large number of traditional SMR systems intermingled with potential wide-area systems in the 800 MHz band, the *Notice* proposed that all EMSP applicants be required to meet co-channel spacing requirements with respect to any non-EMSP system in their proposed service area. *Id.* We continue to believe that any steps to taken to facilitate the development of wide-area systems at 800 MHz must provide continued protection for co-channel licensees operating traditional SMR systems.

⁶⁷ *900 MHz Phase II Notice*, ¶ 41.

⁶⁸ See note 64, *supra*.

⁶⁹ See 47 CFR §§ 90.209, 90.211, 90.213.

⁷⁰ See *id.*, § 22.907. Bandwidth and modulation limits for non-cellular Public Land Mobile Services are set forth in Sections 22.507 and 22.508.

43. Discussion. We seek comment on whether our existing emission mask rules are consistent in their application to substantially similar services. Because specific emission limitations are dependent on such service-specific factors as bandwidth, channel spacing, and the likelihood that different licensees will operate on adjacent channels, substantial changes to these rules may not be necessary or practical. In the case of SMR and cellular, for example, the differences in licensing and channel allocation suggest that it would be impractical either to tighten emission standards for cellular or to loosen them for SMR. On the other hand, even if SMR service evolves in a manner that allows licensees to aggregate large numbers of channels to create cellular-type systems, there will almost certainly be a continued need for strict emission standards where adjacent channels are assigned to different licensees. We seek comment on this issue.

44. In other instances, our Part 22 and Part 90 emission rules already appear to meet the requirement of comparable regulation. With regard to 900 MHz paging operations, for example, both Part 22 and Part 90 systems utilize identical 25 kHz channel spacings and are governed by the same emission limitations,⁷¹ bandwidth limitations,⁷² and transmitter frequency tolerances.⁷³ We therefore propose no changes to the rules for these services. We do seek comment, however, on whether there are other instances where our emission standards are inconsistent as applied to substantially similar services.

d. Antenna Height and Transmitter Power Limits

45. Background. Both Part 22 and Part 90 set limits on base station antenna height and transmitter power for all mobile services, which are largely defined on a service-specific basis. Our cellular rules, for example, limit cellular base station power to 500 watts effective radiated power (ERP) based on an antenna height of 152 meters (500 feet) above average terrain (AAT).⁷⁴ Public mobile base stations below 470 MHz are generally subject to the same restrictions,⁷⁵ although stations in some bands may be operated at higher power on a "fill-in" basis, *i.e.*, so long as they do not expand the interference contour of the system as a whole.⁷⁶ Common carrier paging stations in the 931-932 MHz band are generally limited to a maximum of 1000 watts ERP at 305 meters (1000 feet) AAT, but may transmit at up to 3500 watts on the three designated nationwide channels

⁷¹ Compare 47 CFR §§ 90.211(d)(1)(ii), 90.209(c)(1), and 90.209(g) with §§ 22.508(g), 22.106(a), and 22.106(b)(2).

⁷² Compare 47 CFR § 90.209(b) with § 22.507.

⁷³ Compare 47 CFR § 90.213 with § 22.101.

⁷⁴ 47 CFR §§ 22.904, 22.905. Where base station transmitter height is more than 152 meters, the licensee must reduce ERP proportionately unless it has the consent of all neighboring carriers within 75 miles of the station.

⁷⁵ *Id.*, §§ 22.505(a), 22.506(a). In the 470-512 MHz band, height and power limits vary depending on the base station's distance from the nearest co-channel UHF-TV station. See *id.*, § 22.501(j).

⁷⁶ *Id.*, § 22.506(f).

and on a fill-in basis on other frequencies.⁷⁷

46. Under Part 90, trunked SMR systems and conventional SMR systems in urban areas may operate base stations at up to 1000 watts ERP at 305 meters AAT, while conventional systems outside urban areas are limited to 500 watts ERP and 152 meters AAT.⁷⁸ With some exceptions, the maximum power on shared frequencies below 470 MHz used by Business Radio licensees is 350 watts.⁷⁹ The maximum power for 220-222 MHz base stations is 500 watts ERP at 150 meters AAT.⁸⁰ Finally, 900 MHz paging licensees under Part 90 may operate at 1000 watts ERP at 305 meters AAT, except that nationwide licensees may operate at up to 3500 watts ERP.⁸¹

47. In addition to restrictions on base station height and power, both Part 22 and Part 90 set limits on mobile station transmitter power. Cellular mobiles and portables are limited to 7 watts ERP, and the maximum output power for mobiles in non-cellular Public Land Mobile Services is 60 watts.⁸² SMR mobiles may operate at up to 100 watts maximum output, and 220 MHz mobile units are limited to 50 watts ERP.⁸³ In a separate docket, we have also proposed to adopt the 1992 ANSI/IEEE standards governing exposure to radiofrequency (RF) radiation, which would limit the permissible power of low-power hand-held mobile units used in cellular and other land mobile services.⁸⁴

48. Discussion. In general, we believe that substantially similar mobile services should operate under comparable restrictions on antenna height and transmitter power. At the same time, we believe our height and power rules should encourage technical flexibility and allow licensees to serve diverse customer needs wherever possible. With these principles in mind, we seek comment on whether existing height and power limitations for substantially similar Part 90 and Part 22 services should be amended.

49. Under our existing Part 22 rules, cellular base stations are subject to relatively strict height and power limits because cellular technology relies on closely spaced multiple cells and

⁷⁷ *Id.*, §§ 22.505(c)(2), 22.506(f)(2).

⁷⁸ *Id.*, § 90.635.

⁷⁹ *See id.*, § 90.205(b).

⁸⁰ *Id.*, § 90.729(a).

⁸¹ *Id.*, § 90.494(f),(g).

⁸² *Id.*, §§ 22.506(c), 22.904.

⁸³ *Id.*, §§ 90.635(d), 90.729(b).

⁸⁴ *See Notice of Proposed Rule Making*, ET Docket No. 93-62, 8 FCC Rcd 2849 (1993) (*RF Radiation Notice*). We have also expressly adopted this standard for PCS mobile units in our PCS rules. *See Broadband PCS Order*, ¶¶ 191-192; 47 CFR § 99.52.

frequent channel re-use. On the other hand, Part 90 power limits for 800 and 900 Mhz base stations are set at higher levels to accommodate traditional dispatch systems that use high-power base stations to transmit to small groups of users over relatively large areas. The same principles apply to power limits on mobile stations: the maximum allowable power for cellular mobiles is significantly lower than the maximum power for SMR mobiles. This reflects the fact that cellular subscribers use lightweight mobiles that do not require high power to reach the nearest cell site, while SMR users sometimes require higher-power mobiles because base stations are more widely dispersed.

50. In light of the above differences, we seek comment on whether our cellular and SMR rules on base station height and power should be conformed. To the extent that we conclude that wide-area SMR is substantially similar to cellular service, it could be argued that SMR licensees who acquire enough channels to operate cellular-type systems should be required to comply with power limits comparable to those prescribed for cellular licensees. To the extent that traditional SMR service is not substantially similar to cellular service, however, existing height and power limits for each service should arguably be retained.⁸⁵ A third alternative that could be applied to wide-area SMR systems and cellular systems would be to limit station power at the licensee's service area border, but give licensees greater flexibility over station power within the interior portions of their service areas. We seek comment on the feasibility and practical effect of these alternatives. In particular, we invite commenters to address the nature and extent of costs and other burdens that would be faced by CMRS licensees if we were to modify our existing antenna height and power rules, and to suggest how any such costs or burdens should be balanced against the statutory objective of establishing comparable technical requirements for substantially similar services.

51. We also seek comment on whether height and power limits for lower band Part 90 services should be conformed to those of substantially similar Part 22 services. We note that on Part 90 lower band frequencies that are shared, it may not be practical to adopt the typically higher power limits that apply to Public Land Mobile Service licensees on exclusive channels. In the case of 220 MHz service, which is licensed on an exclusive basis, our evaluation of height and power limits depends on whether we conclude that 220 MHz service is substantially similar to any existing Part 22 service. Assuming we reach that conclusion, we seek comment on whether it is necessary to revise our 220 MHz height and power rules and what the practical consequences would be of doing so.

52. With regard to the existing power limits for 900 MHz paging systems, the rules in Part 22 and Part 90 are already highly similar. We seek comment, however, on whether non-nationwide licensees at 929-930 MHz should be allowed to operate at up to 3500 watts within their existing service areas, as non-nationwide paging systems under Part 22 are currently allowed to do. We also seek comment on whether our height and power rules could be made more flexible for wide-area

⁸⁵ Although SMR height and power limits are higher than the equivalent restrictions on Part 22 non-cellular systems, SMR systems also operate in higher bandwidths where more power is required to attain the same signal range.